Jefferson Lab
Proposal Cover Sheet (Generic)

Experimental Hall: A
Days Requested for Approval: _____

Submission Date: 5/24/98
Other: PAC 8

☐ **New Proposal Title:**
☒ **Update Experiment Number:** 93-024
☐ **Letter-of-Intent Title:**
(Choose one)

Proposal Physics Goals
Indicate any experiments that have physics goals similar to those in your proposal.

Approved, Conditionally Approved, and/or Deferred Experiment(s) or proposals:

Contact Person

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Receipt Date: 5/94 PR 94-032
By: _____

May 1994 Update

CEBAF EXPERIMENT 93-24

Measurement of the Magnetic Form-Factor of the Neutron at Large Momentum Transfers

Hall-A Collaboration

Spokespersons: J. Gomez, CEBAF
G.G. Petratos, Kent State University

The objective of this experiment, proposed to and approved by the PAC6 in 1993, is to measure the magnetic form-factor of the neutron by exploring inclusive quasielastic electron-deuteron scattering up to its practical limit of $Q^2 \sim 6.5$ $(GeV/c)^2$.

It is a single-arm experiment using the electron High Resolution Spectrometer with its standard detection package, presently under construction and on schedule. The high resolution aspect of the spectrometer is not needed for this experiment.

The experiment requires the high power liquid hydrogen/deuterium target of Hall-A, which at this time remains partially unfunded. Despite these funding limitations, a significant amount of work has been done by the California State University at Los Angeles group and the Hall-A staff in the design and construction of parts of the cryotarget (see report of Hall-A Experiment Integration Committee).

The experiment also requires a fairly good understanding of the experimental apparatus including the beam current measuring devices. It should be noted that the high precision proton elastic data from this experiment offers a unique opportunity for a benchmark comparison to similar data from other laboratories such as recent SLAC data.